Madhu Siddharth Suthagar

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SUMMARY

Data Science grad student with expertise in the ML workflow, from data preprocessing to model building, evaluation, and monitoring. Strong foundation in mathematics (including Linear Algebra, Calculus, Probability, and Statistics) and exceptional communication skills, thriving in team and individual settings.

EDUCATION

M.A.S Data Science May 2026
Illinois Institute of Technology - GPA - 4.0

B.Tech Information Technology April 2024
Coimbatore Institute of Technology - GPA - 3.66

PATENTS AND CERTIFICATIONS

Granted Indian patent for project SATURDAE (Application no – 202341038832 A) September 2023
Google Project Management certificate July 2023
IBM Data Science Professional certificate April 2023
Google Data Analytics certificate May 2022

SKILLS

Tools - Google Cloud Platform, PostgreSQL, Tableau, IBM Watson Studio, Excel

Packages - Pandas, Numpy, PyTorch, Tensorflow, Plotly, Dash, Seaborn, Matplotlib, Scikit learn, nltk, keras

Programming Languages - Python, R, C, C++, Java, SQL

PROJECTS

Alzheimer's Prediction (Illinois Institute of Technology) January 2025 - Present

Initiated an ML pipeline leveraging transfer learning with ResNet to classify Alzheimer's stages from MRI and GANs to generate personalized images predicting future stages, utilizing deep convolutional neural networks and optimizing Binary Cross Entropy loss (0.38 for discriminator, 3.52 for generator).

Traffic Analysis (Coimbatore Institute of Technology) January 2024 - April 2024

Developed a 5-minute interval traffic predictor for San Francisco with a Random Forest Regressor on the Caltrans dataset (R^2: 0.87). Integrated web scraping for real-time news updates and implemented a custom-weighted Dijkstra algorithm for optimal route calculation, visualized using Folium maps.

SymptoScan (Coimbatore Institute of Technology) July 2023 - December 2023

Led an ML project to classify diseases with similar symptoms (flu, COVID-19, allergy, cold) by creating a logistic regression meta-classifier on top of decision tree and SVM binary classifiers. Improved F1 score for imbalanced classes from 0.35 to 0.6 by applying SMOTE for data balancing and tuning hyperparameters.

INTERNSHIP EXPERIENCE

Database Intern July 2022 - August 2022
Brillersys, India

Architected scalable PostgreSQL hospital databases for high-volume transactions, ensuring consistency. Enhanced functionality by 15% through functions and triggers, collaborating with the team.

AI Intern February 2021 - March 2021
Smartknower, India

Implemented CNN, ANN, and image processing techniques to develop a Fashion MNIST classifier as a mini project. Collaborated with a team to build an image classifier using ImageNet, VGG16, and transfer learning.